

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) A single crystal pulling apparatus for a metal fluoride, comprising:
 - a chamber constituting a crystal growth furnace;
 - a crucible provided in the chamber ~~and for~~ filling with a molten solution of a single crystal ~~manufacturing material~~;
 - a melting heater provided to surround the crucible;
 - a vertically movable single crystal pulling bar ~~including for attaching~~ a seed crystal on a tip and coming adapted to come in contact with the molten solution of the single crystal ~~manufacturing material filled~~ in the crucible;
 - a heat insulating wall provided in the chamber to surround at least a peripheral side portion of a single crystal pulling region in an upper part of the crucible;
 - a ceiling board for closing an opening portion of an upper end in an upper part of the heat insulating wall; and
 - a single crystal pulling chamber surrounded by the heat insulating wall and the ceiling board,
 - wherein the ceiling board is provided with at least an inserting hole for inserting the single crystal pulling bar, and
 - a coefficient of thermal conductivity in a direction of a thickness of the ceiling board is 1000 to 50000 W/m²·K.
2. (Original) The single crystal pulling apparatus for a metal fluoride according to claim 1, wherein a coefficient of thermal conductivity in a direction of a thickness of the heat insulating wall is 100 W/m²·K or less.
3. (Currently Amended) The single crystal pulling apparatus for a metal fluoride according to claim 1 ~~or 2~~, wherein the ceiling board is a graphite plate.

4. (Currently Amended) The single crystal pulling apparatus for a metal fluoride according to ~~any of claims 1 to 3~~claim 1, wherein the ceiling board is positioned in a higher place than an upper end of the crucible by 50 to 500% of a maximum inside diameter of the crucible.

5. (Currently Amended) The single crystal pulling apparatus for a metal fluoride according to ~~any of claims 1 to 4~~claim 1, wherein a total opening area of apertures formed on the ceiling board is 5 to 60% of an opening area of an upper end in a circular enclosure of the heat insulating wall.

6. (Currently Amended) The single crystal pulling apparatus for a metal fluoride according to ~~any of claims 1 to 5~~claim 1, wherein the metal fluoride is calcium fluoride.

7. (Currently Amended) The single crystal pulling apparatus for a metal fluoride according to ~~any of claims 1 to 6~~claim 1, wherein the crucible has a ~~maximum~~ inside diameter of 11 cm or more.